

CLAIMS

What is claimed is:

1. A composition comprising an isolated polynucleotide comprising a nucleotide sequence encoding a first polypeptide of at least 200 amino acids that has at least 90% identity based on the Clustal method of alignment when compared to a polypeptide selected from the group consisting of a polypeptide of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, and SEQ ID NO:16; or an isolated polynucleotide comprising the complement of the nucleotide sequence.
2. The composition of Claim 1, wherein the isolated nucleotide sequence consists of a nucleic acid sequence selected from the group consisting of SEQ ID NOs:1, 3, 5, 7, 9, 11, 13, and 15 that codes for the polypeptide selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.
3. The composition of Claim 1 wherein the isolated polynucleotide is DNA.
4. The composition of Claim 1 wherein the isolated polynucleotide is RNA.
5. A chimeric gene comprising the isolated polynucleotide of Claim 1 operably linked to suitable regulatory sequences.
6. An isolated host cell comprising the chimeric gene of Claim 5.
7. An isolated host cell comprising an isolated polynucleotide of Claim 1.
8. The isolated host cell of Claim 7 wherein the isolated host selected from the group consisting of yeast, bacteria, plant, and virus.
9. A virus comprising the isolated polynucleotide of Claim 1.
10. A composition comprising a polypeptide of at least 200 amino acids that has at least 90% identity based on the Clustal method of alignment when compared to a polypeptide selected from the group consisting of a polypeptide of SEQ ID NO:2, SEQ ID NO:4, SEQ ID NO:6, SEQ ID NO:8, SEQ ID NO:10, SEQ ID NO:12, SEQ ID NO:14, and SEQ ID NO:16.
11. A method of selecting an isolated polynucleotide that affects the level of expression of a polypeptide in a host cell, the method comprising the steps of:
  - (a) constructing an isolated polynucleotide comprising a nucleotide sequence of at least one of 30 contiguous nucleotides derived from a nucleotide sequence selected from the group consisting of SEQ ID NOs:1, 5, 7, 9, 11, 13, 15, and the complement of such nucleotide sequences;
  - (b) introducing the isolated polynucleotide into a host cell; and
  - (c) measuring the level of a polypeptide in the host cell containing the polynucleotide.
12. The method of Claim 11 wherein the isolated polynucleotide consists of a nucleotide sequence selected from the group consisting of SEQ ID NOs:1, 3, 5, 7, 9, 11, 13,

and 15 that codes for the polypeptide selected from the group consisting of SEQ ID NOs:2, 4, 6, 8, 10, 12, 14, and 16.

13. A method of selecting an isolated polynucleotide that affects the level of expression of a polypeptide in a plant cell, the method comprising the steps of:

- (a) constructing an isolated polynucleotide of Claim 1;
- (b) introducing the isolated polynucleotide into a plant cell; and
- (c) measuring the level of a polypeptide in the plant cell containing the polynucleotide.

14. A method of obtaining a nucleic acid fragment encoding a polypeptide comprising the steps of:

- (a) synthesizing an oligonucleotide primer comprising a nucleotide sequence of at least one of 30 contiguous nucleotides derived from a nucleotide sequence selected from the group consisting of SEQ ID NOs:1, 3, 5, 7, 9, 11, 13, 15, and the complement of such nucleotide sequences; and

- (b) amplifying a nucleic acid sequence using the oligonucleotide primer.

15. A method of obtaining a nucleic acid fragment encoding a polypeptide comprising the steps of:

- (a) probing a cDNA or genomic library with an isolated polynucleotide comprising a nucleotide sequence of at least one of 30 contiguous nucleotides derived from a nucleotide sequence selected from the group consisting of SEQ ID NOs:1, 3, 5, 7, 9, 11, 13, 15, and the complement of such nucleotide sequences;

- (b) identifying a DNA clone that hybridizes with the isolated polynucleotide; isolating the identified DNA clone; and

- (c) sequencing the cDNA or genomic fragment that comprises the isolated DNA clone.

16. A method for evaluating at least one compound for its ability to inhibit the activity of a polypeptide, the method comprising the steps of:

- (a) transforming a host cell with the isolated polynucleotide of claim 1 encoding a polypeptide;

- (b) growing the transformed host cell under conditions that are suitable for expression of the nucleic acid fragment wherein expression results in production of a polypeptide encoded by the nucleic acid fragment in the transformed host cell;

- (c) optionally purifying the polypeptide expressed by the transformed host cell;

- (d) treating the polypeptide with a compound to be tested; and

- (e) comparing the activity of the polypeptide that has been treated with a test compound to the activity of an untreated polypeptide, thereby selecting compounds with potential for inhibitory activity.